

III. REMARKS

This amendment is responsive to the Office Action mailed February 14, 2007 in regard to the above-identified patent application. Claim 1 has been amended. Claim 4 had been previously cancelled. Claims 1 through 3 are now pending in this application.

Claims 1-3 were rejected under 35 U.S.C. 112, first paragraph as failing to comply with the written description requirement. Applicant respectfully disagrees with the examiner's position indicating that the step of "polishing said semi-solid adhesive layer" recited in claim 1, line 7 is not recited in the specification. Page 6 of the detailed description describes a step of polishing a photopatterned fluidic channel layer 11 that provides support for the claimed step of "polishing said semi-solid adhesive layer" recited in claim 1, line 7 irrespective of the support being described relating to either a prior art embodiment or a "cured" layer. Here, the curing of a "cured" layer referred to on page 6 is described in no further detail except with respect to the disclosed embodiment. Accordingly, claims 1-3 are patentable under 35 U.S.C. 112, first paragraph.

Claims 1-3 were rejected under 35 U.S.C. 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 has been amended to clarify the phrase "fluidic ink" being "fluidic ink passageway". Accordingly, claims 1-3 are patentable under 35 U.S.C. 112, second paragraph.

Claims 1-3 were rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art in view of Lin et al. [TW 506908 B] where the examiner United States Patent 6592210 as an

English translation for TW 506908 B for the purpose of examination.

Claim 1 recites a process for forming a thermal print head die module having a bonded pair of substrates comprising a first step of applying a thin coating of a heat-curable, photopatternable epoxy polymer composition to a lower heater substrate. A step is then claimed of drying said coating to form a semi-solid adhesive layer. A step is then claimed of photoexposing said semi-solid adhesive layer, through a mask, polishing said semi-solid adhesive layer and developing passageways therethrough, to form a patterned adhesive fluidic ink passageway epoxy layer. A step is then claimed of pressing said patterned adhesive layer and supporting lower substrate against the surface of an upper ink inlet substrate to bond said adhesive layer to said substrates and form a bonded pair of substrates.

The examiner has characterized page 2-6 of the specification of the instant application as admitted prior art. Applicant respectfully disagrees. In the specification of the instant application, specifically referring to the paragraph on page 2 beginning with "U.S. Patent No. 32, 572 to Hawkins" through the paragraph on page 4 ending in "a separate bonding layer" and the paragraph on page 6 beginning with "referring to the prior art embodiment" through the paragraph on page 6 ending on "over the channel layer 11", hereinafter will be referred to as the "specification portion". Applicant respectfully disagrees with the examiners interpretation and application of the specification portion and respectfully requests the examiner to point out with specificity, either in the specification portion or within the specific references where the claimed features reside as the features of claims 1-3 are not disclosed or suggested as

characterized. Applicant respectfully disagrees with the examiner's characterizing page 2-6 as admitted prior art and by outlining the specification portion or by pointing out below examples of such inconsistencies is specifically not admitting any portion thereof as admitted prior art or prior art. For example, no where in the specification portion is there a disclosure or suggestion of applying a thin coating of a heat-curable, photopatternable epoxy polymer composition to a lower heater substrate and drying said coating to form a semi-solid adhesive layer as claimed in claim 1. Instead, the specification portion has the bare disclosure of patterning and developing a photosensitive polymer on a heater wafer and curing the photosensitive polymer. As a further example, no where in the specification portion is there a disclosure or suggestion of photoexposing said semi-solid adhesive layer, through a mask, polishing said semi-solid adhesive layer and developing passageways therethrough, to form a patterned adhesive fluidic ink passageway epoxy layer as claimed in claim 1. Instead, the specification portion has the bare disclosure of polymer channel structures. As a further example, no where in the specification portion is there a disclosure or suggestion of pressing said patterned adhesive layer and supporting lower substrate against the surface of an upper ink inlet substrate to bond said adhesive layer to said substrates and form a bonded pair of substrates as claimed in claim 1. Instead, the specification portion has the bare disclosure of a separate adhesive layer.

Lin et al. discloses a piezo-electric ink-jet print head having a substrate 202 having a metallic layer 208 and lower electrode layer 210 formed thereon. A piezo-electric layer 212 is formed over the electrode layer 210. A patterned thick film layer 216 is disclosed having a slot hole 218 forming cavity 220 enclosing

piezo-electric layer 212. A nozzle plate 222 is disclosed attached to the upper surface of thick film layer 216 having nozzle hole 226 forming ink reservoir 224. If the layer 212 is made from ceramic material, nozzle plate 216 is disclosed attached to thick film layer 216 after the firing process and hence, there is no need to fabricate nozzle plate 222 from temperature resistant materials (column 5, lines 6-12).

In the instant claim 1, Lin et al. is not considered analogous art as Lin et al. is directed at forming an ink reservoir cavity in a piezo electric device whereas the instant claim is directed at forming fluidic ink passageways of a thermal print head die module. Although applicant does not regard Lin et al. as analogous art, even if Lin et al. were analogous art, there is no disclosure or suggestion of using a single epoxy layer as claimed in claim 1 and as the examiner has asserted. No where in Lin et al. is there a disclosure or suggestion of applying a thin coating of a heat-curable, photopatternable epoxy polymer composition to a lower heater substrate and drying said coating to form a semi-solid adhesive layer as required by claim 1. Lin et al. discloses patterned thick film layer 216 with no disclosure or suggestion of drying to form a semi-solid adhesive layer as required by claim 1. No where in Lin et al. is there a disclosure or suggestion of pressing said patterned adhesive layer and supporting lower substrate against the surface of an upper ink inlet substrate to bond said adhesive layer to said substrates and form a bonded pair of substrates as required by claim 1. Instead, Lin et al. has the bare disclosure of a nozzle plate 222 attached to layer 216 (see column 4, lines 66-67) with no disclosure or suggestion of pressing a patterned adhesive layer and supporting lower substrate against the surface of an upper ink inlet substrate to bond said adhesive layer to said

substrates and form a bonded pair of substrates as required by claim 1.


The features of claim 1 are neither disclosed or suggested by Lin et al. either alone or in combination. Accordingly, claim 1 is patentable over Lin et al.

Claims 2 and 3 depend upon claim 1. For the reasons set forth above relating to claim 1, the features of claims 2 and 3 patentable.

For all of the foregoing reasons, it is respectfully submitted that all of the claims now present in the application are clearly novel and patentable over the prior art of record, and are in proper form for allowance. Accordingly, favorable reconsideration and allowance is respectfully requested. Should any unresolved issues remain, the Examiner is invited to call Applicants' attorney at the telephone number indicated below.

The Commissioner is hereby authorized to charge payment for any fees associated with this communication or credit any over payment to Deposit Account No. 24-0037.

Respectfully submitted,



Janik Marcovici
Reg. No. 42,841

5/14/07


Date

Perman & Green, LLP
425 Post Road
Fairfield, CT 06824
(203) 259-1800
Customer No.: 2512

CERTIFICATE OF ELECTRONIC FILING

I hereby certify that this correspondence is being transmitted electronically, on the date indicated below, addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Date: 5/14/07

Signature: 

Shauna Murphy
Person Making Deposit